

What is math fact fluency?

Math fact fluency is the ability to recall the answers to basic math facts automatically and without hesitation. Fact fluency is gained through significant practice, with mastery of basic math facts being a goal of both teachers and parents.

Spear-Swerling (2006) states that both conceptual understanding and the ability to solve facts accurately under un-timed conditions are prerequisites for automatic recall of facts. When these prerequisites have been achieved, it is imperative that the student practices the facts such that they can be answered automatically (*i.e.*, retrieval of the answer is both quick and accurate). Through repeated exposures with a fact, the brain establishes a memory relationship with the fact, leading to automatic retrieval. The usual speed goal for automatic recall of facts when responding orally is 30 correct per minute—2 seconds per fact.

Why is math fact fluency important?

Information processing theory supports the view that automaticity in math facts is fundamental to success in many areas of higher mathematics. Without the ability to retrieve facts directly or automatically, students are likely to experience a high cognitive load as they perform a range of complex tasks. The added processing demands resulting from inefficient methods such as counting (*vs.* direct retrieval) often lead to declarative and procedural errors. Accurate and efficient retrieval of basic math facts is critical to a student's success in mathematics. Research published by The National Council of Teachers of Mathematics (NCTM) states that students who cannot retrieve basic facts easily get lost and often cannot follow the logic of an explanation given by the teacher or a peer when the problems are embedded within more complex mathematic operations, such as simple algebra or long division.

Homework

In addition to the worksheets your child has been getting for math homework, I will be asking that each student spend at least 15 minute on 4 separate days practicing multiplication math facts. We will be taking a "Mad Minute" each week in class, with the goal to improve upon our personal speeds and accuracies. There are lots of websites that would be appropriate for this practice, as well as the traditional flashcards and worksheets. Students will be asked to complete a "Math Fact Practice Log," much like their "Reading Log," to be turned in each week. The log will allow students to record when and how long they practiced, and by what means. We will also work together to set a goal, and use a graph to monitor progress towards this goal. Please review and sign this log each week. When students reach and maintain a mutually agreed upon goal, this *Math Fact Practice* homework will become unnecessary and not required.